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Environmental Protection
Agency

Office of Water
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EPA Proposes A New Rule to Protect Underground Sources of Drinking Water from Wastewater Disposal in South Florida

Why is this rule needed and why does it only pertain to South Florida?

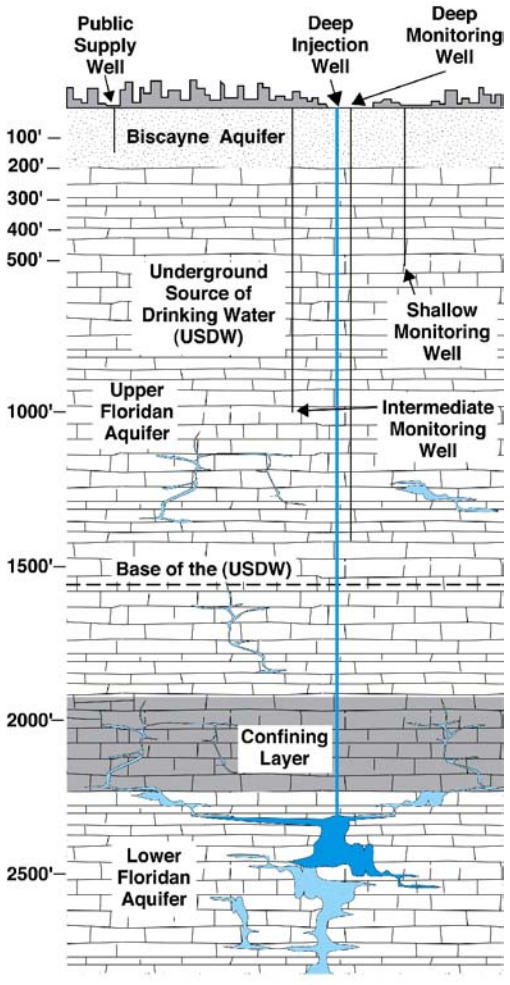
The U.S. Environmental Protection Agency (EPA) has just proposed a new rule to further protect underground sources of drinking water in South Florida. Why only South Florida? Florida is the only State in the country that disposes of domestic wastewater through deep injection wells, typically 2,000 to 3,400 feet deep. The wastewater is injected into deep geologic formations, in some locations known as the "Boulder Zone". The Boulder Zone is located below groundwater supplies that are currently used or may be used in the future as a source of drinking water. Drinking water supply sources are typically a few hundred feet deep and, therefore, far above the Boulder Zone.

These injection wells are used in Florida for two reasons:

1. The Boulder Zone and other deep formations in Florida like the Boulder Zone are unique geologic formations that can accept large quantities of wastewater.

2. There are severe local restrictions on other types of wastewater disposal alternatives, such as discharge to surface water.

Northern Florida and other States do not have these geologic features that can accept large quantities of wastewater and therefore generally use surface water disposal. These wells inject about 450 million gallons of domestic wastewater every day, accounting for about one third of the wastewater generated in the State. The wells are regulated by the State of Florida under their Underground Injection Control Program and designated as Class I municipal wells.



Hydrogeologic Cross Section in South Florida

Current federal requirements for this well type:

- do not allow the injection to cause any fluid to move into the underground sources of drinking water (USDW); and
- do not place any limits on the quality of the wastewater being injected.

The layer that South Florida has relied upon to completely confine all fluid movement is not preventing the wastewater from three facilities from moving into the lower USDW. About 40 other Florida facilities inject wastewater into similar geological formations and the injected fluids may move into the lower USDWs in the future.

EPA has been evaluating alternatives to solve this problem and is committed to finding a solution that continues to protect Florida's underground sources of drinking water while at the same time protects Florida's surface waters, ocean beaches, and shallow ground water resources.

What is EPA's Proposal?

EPA proposes to change the requirements that must be met by the owners or operators of existing Class I municipal (public and private) injection wells, giving facilities an alternative method of complying with UIC regulations while ensuring the USDWs are protected.

The new rule would allow fluid to move into the USDW, but would place more stringent requirements on facilities to ensure that those USDWs are not endangered. The facilities would have to demonstrate that the injection would not cause any USDWs to exceed primary drinking water regulations and other health based standards.

Specifically, EPA is proposing and seeking public comment on two options:

Option 1 - Advanced Wastewater Treatment with Non-Endangerment Demonstration: The owner and/or operator would have to treat the waste by advanced wastewater treatment and high-level disinfection and demonstrate that the injected fluids would not cause USDWs to exceed the national primary drinking water regulations and other health-based standards. The demonstration would assure the State and EPA that the USDW would not be endangered.

Option 2 - In-depth Hydrogeologic Demonstration and Advanced Treatment, as Necessary: The owner and/or operator must demonstrate that the injected fluid would not cause USDWs to exceed the national primary drinking water regulations and other health-based standards. If the owner and/or operator cannot successfully make this demonstration, they must treat the injectate to such a level that the injected fluids would not cause such exceedances in the USDW.

Under this option, each affected facility must have in place, by 2015, advanced wastewater treatment and high-level disinfection. EPA proposes this 15-year period to give the facilities enough time to plan, design, and build wastewater reuse and disposal alternatives.

How are Options 1 and 2 different?

Option 1 requires all facilities to provide additional treatment of the wastewater plus demonstrate that any fluids which enter the USDW do not cause a violation of any National Primary Drinking Water Regulation and do not exceed any health based standards (e.g., federal or State health advisories).

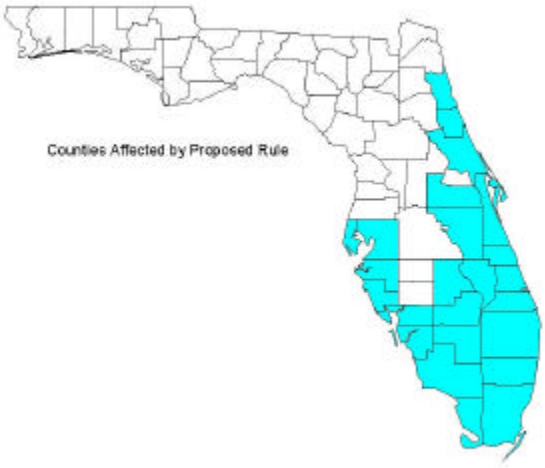
Option 2 is designed to provide the same level of public health protection as Option 1 but the level of treatment that would be required would be determined by an in-depth study on a case-by-case basis.

Although both options require demonstrations from the owners or operators of the affected facilities, the demonstration required under Option 1 could be less extensive than the hydrogeologic demonstration required under Option 2.

Is EPA seeking public comment on other aspects of the rule?

EPA plans four public hearings to solicit comments on the proposal, and will accept written comments for 60 days following the publication of the proposed rule in the **Federal Register**. In addition to seeking comment on Options 1 and 2, EPA is seeking comment on the following questions:

- Should the proposed rule apply only to existing wells, or should it also apply to new Class I injection wells in the areas of Florida defined by the rule?
- What should be the minimum treatment requirements under Option 1?
- What level of treatment should be required of facilities that inject wastewater in the year 2015 under Option 2?
- Are the assumptions that EPA used in the economic analysis in support of this proposed rule appropriate?



What will happen if the proposed rule is not adopted?

The three facilities that are currently experiencing fluid movement into USDWs would have to stop or significantly reduce injection and find an alternative way to dispose of their wastewater. Possible wastewater disposal alternatives would be to build advanced treatment facilities and discharge the effluent to rivers, streams, and the ocean. A facility could also request that the aquifer be exempted from UIC regulations if they can prove that the USDW is not currently and is not expected to be used as a source of drinking water. If EPA granted such a request the facility could continue injecting the wastewater without meeting any additional requirements.

How can I comment on this proposed rule?

EPA will accept written comments during the 60-day public notice period immediately following the proposed rule's publication in the **Federal Register**. Please send your comments to:

Nancy H. Marsh
U.S. EPA Region 4
Sam Nunn Atlanta Federal Center
61 Forsyth St., SW
Atlanta, GA 30303

EPA also will accept written and oral comments at four public hearings, two each in Tampa and West Palm Beach, Florida. The Tampa hearings will be held at the Travelodge, 820 East Busch Boulevard from 1:00 p.m. to 4:00 p.m. and from 6:00p.m. to 9:00 p.m. on Tuesday, August 22, 2000. The West Palm Beach public hearings will be held at the The Sheraton West Palm Beach Hotel, 630 Clearwater Park Road from 1:00 p.m. to 4:00 p.m. and from 6:00 p.m. to 9:00 p.m. on Thursday, August 24, 2000.

How can I get more information?

The proposed rule, "Revision to the Federal Underground Injection Control (UIC) Requirements for Class I-Municipal Wells in Florida," was published in the **Federal Register** on July 7, 2000. The proposed rule and other supporting information is available from the EPA Region 4 Web site:

www.epa.gov/region04/uic/uicindex.htm.

For additional information, contact Nancy Marsh (404) 562-9450 or Howard Beard (202) 260-8796.